

Periodic Table

Essential question: How can information from the periodic table be used to make predictions?

Vocabulary:

Element key element symbol atomic mass atomic number groups/families periods/rows metals metalloids
non-metals periodic rare-earth valence electrons synthetic

VB Objectives:

PS.4.1 Identify the symbol, atomic number, atomic mass, chemical families (groups), and periods of any given element.

PS.4.2 Explain the patterns that classify elements as metals, metalloids, and nonmetals. (SOL PS.4.b)

SOL:

PS.4 The student will investigate and understand the organization and use of the periodic table of elements to obtain information. Key concepts include

- a) symbols, atomic number, atomic mass, chemical families (groups), and periods;
classification of elements as metals, metalloids, and nonmetals

What you should know about the unit. Answer the questions prior to the test.

1. What are valence electrons? Do you know the pattern?
2. What does the atomic number tell you?
3. What does the atomic mass tell you?
4. What do elements in the same row/period have in common?
5. What do elements in the same group/column have in common?
6. What is a 'family' on the periodic table?
7. What does synthetic mean?
8. What does periodic mean?
9. Who is Mendeleev?
repeating pattern
10. Who is Mosely?
organized the Periodic Table by mass
11. Where are metals, non-metals, and metalloids located?
organized the Periodic Table by atomic #
12. What are the properties of metals, non-metals, and metalloids?

Whose model of the periodic table are we currently using?
He arranged the table by:

Mosley's

The vertical columns are called _____ or _____

These tell you the number of:

The elements in these columns all have _____ properties.

Family Name	Valence Electrons	Metal Nonmetal Metalloid	Appearance	Good or bad conductors	Reactivity High or Low
Alkali					H
Alkali Earth					H
Transition Metals					H
Boron					H
Carbon					differs
Nitrogen					
Oxygen					L
Halogens					L
Noble Gases					L
Lanthanoid Series					H
Actinoid Series					H

rare earth metals
radio-active

The horizontal rows are called:

How many are there?

The first element is always a _____ and the last _____

	Metals	Nonmetals	Metalloids
Appearance			
Conductivity			O.K.
Physical Properties (brittle, malleable, ...)			
Position on the table	middle & left		stairsteps